

Appl. No. 10/037,546
Amdt. Dated September 29, 2003
Reply to Office action of July 2, 2003

REMARKS/ARGUMENTS

Applicants would like to thank the Examiner for the careful consideration given the present application. The application has been carefully reviewed in light of the Office action, and amended as necessary to more clearly and particularly describe the subject matter which applicants regard as the invention.

Claims 1, 2, 7, and 27 were amended herein in accordance with the Examiner's suggestions to correct minor informalities.

Claims 1-3, 5, and 12 were rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art figs. 1a-1c (hereafter AAPA fig. 1) in view of Mesenich (U.S. Patent No. 4,810,985). Traversal of this rejection is made for at least the following reasons. The Examiner concedes that AAPA fig. 1 does not disclose a mounting flange integral to the disc and having a bore extending from the mounting flange to a bottom surface of the disc, as required by independent claims 1 and 12. Accordingly, the Examiner relied on Mesenich, in particular, Fig. 3a of Mesenich, in an attempt to make up for the deficiencies of AAPA fig. 1. Mesenich discloses a stator 30 which has a threaded portion 240 such that the stator 30 can be threadably engaged with an associated valve housing to mitigate independent movement of an outer pole 348a of the stator 30. However, Mesenich does not disclose, teach, or suggest a mounting flange having a bore which extends from the top portion of the stator to a bottom surface of the disc. Figs. 2a-2c of the subject application illustrates that a bore formed in mounting flange 30 extends only to a bottom surface of the disc. Another bore, which has a different diameter than the mounting flange bore, extends from the bottom surface of the disc to an end portion of the inner annular ring. In contrast, Fig. 3a of Mesenich depicts the stator 30 as having only one bore, which extends completely therethrough. Thus, neither AAPA nor Mesenich, individually or in combination, teach or suggest each and every limitation set forth in claims 1 and 12.

Moreover, it is submitted that there is no motivation to combine the teachings of AAPA fig. 1 with the teachings of Mesenich. AAPA fig. 1 is directed to a field core shell that is typically employed on an electromagnetic clutch of the type found in automotive air conditioning systems to drive a compressor; while Mesenich is directed to an electromagnet for valves in which an electromagnet is employed for actuation of fuel injection valves for internal combustion

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engines. Mesenich discloses that a stator 30 can be threaded 240 such that the stator 30 can be threadably engaged with a valve housing. There is nothing in Mesenich that discloses, teaches, or suggests that employing an integral mounting flange increases mechanical stability and eddy current depletion, as suggested by the Examiner. Rather, Mesenich discloses that functions of armature suspension and generation of magnet force are separated to increase mechanical stability, and the stator core 210 and armature 23 are made to be as thin-walled as possible to minimize eddy current losses. (See col. 13, lines 15-25 and col. 6, lines 24-27) Thus, it is submitted that one skilled in the art would not have been motivated by the teachings of Mesenich to provide an integral flange on a field core shell, as required by the present claims. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990).

Claim 4 was rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA fig. 1 and Mesenich, as applied in the rejection against the base claim, and further in view of Lindgren (U.S. Patent No. 4,829,205). Traversal of this rejection is requested for at least the following reasons. The Examiner concedes that the combination of AAPA fig. 1 and Mesenich does not disclose a wire winding pod having a hole through the top surface of the wire winding pod to feed wire leads. Accordingly, the Examiner relied on Lindgren in an attempt to make up for the deficiencies of AAPA fig. 1 and Mesenich. However, it is submitted that the Examiner is incorrectly relying on induction rotor 8 and stator 15 of Lindgren as being equivalent to the claimed wire winding pod. A wire winding pod is structured and employed to hold an electromagnetic coil. In contrast, neither rotor 8 nor stator 15 are structured or employed to hold an electromagnetic coil. Thus, slots 18 for stator alternating current windings 19 cannot be considered equivalent to the claimed hole provided in a top portion of a wire winding pod. Moreover, it is submitted that there is no teaching, suggestion, or motivation in the cited references to combine or modify the teachings of such references for at least the reasons discussed above.

Claim 6 was rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA fig. 1 and Mesenich, as applied in the rejection against the base claim, and further in view of the level of

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ordinary skill in the art. The Examiner contends "those skilled in the art would understand that the size of the winding pod can be modify by tapering the rings so that they would yield a suitable size to accommodate the winding therein." Applicants traverse the Examiner's contention and request that supporting documentation be provided.

Claims 7-8 and 10 were rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA fig. 1 and Mesenich, as applied in the rejection against the base claim, and further in view of Aoki (U.S. Patent No. 4,088,914). Traversal of this rejection is made for at least the following reasons. The Examiner concedes that neither AAPA fig. 1 nor Mesenich discloses a mounting flange that extends parallel to a plane of the top surface of the disc, as required by claims 7-10. The Examiner attempts to rely on Aoki to make up for the aforementioned deficiencies of AAPA fig. 1 and Mesenich. In particular, the Examiner relies on elements 40C and 40C2 of Aoki as being equivalent to the claimed mounting flange. However, element 40C is a core support for an armature core and element 40C2 is a shaft slip-in portion formed in a central portion of the core support 40C in order to press the rotor shaft 9 thereinto. It is submitted that the armature core support 40C and the shaft slip-in portion 40C2 of Aoki are not equivalent to the claimed mounting flange. It is further submitted that one of ordinary skill in the art would not have been motivated by the teachings of Aoki to modify the threaded mounting portion of Mesenich to provide a mounting flange that extends parallel to a plane to the top surface of the disc.

Claim 9 was rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA fig. 1, Mesenich, and Aoki, as applied in the rejection against the base claim, and further in view of Lindgren. Traversal of this rejection is made for at least the following reasons. As discussed above, neither rotor 8 nor stator 15 of Lindgren are structured or employed to hold an electromagnetic coil. Thus, slots 18 for stator alternating current windings 19 cannot be considered equivalent to the claimed hole provided in a top portion of a wire winding pod. Moreover, it is submitted that there is no teaching, suggestion, or motivation in the cited references to combine or modify the teachings of such references for at least the reasons discussed above.

Claim 11 was rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA fig. 1, Mesenich, and Aoki, as applied in the rejection against the base claim, and further in view of the

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level of ordinary skill in the art. Applicants traverse the Examiner's contention that tapering an inner annular ring and an outer annular ring at an angle α is would have been obvious to one of ordinary skill in the art. Accordingly, Applicants request that supporting documentation be provided.

Claims 13, 14, 16/14, and 18/14 were rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA fig. 1 and Mesenich, as applied in the rejection against the base and further in view of Hodjat et al. Traversal of this rejection is made for at least the following reasons. Claims 13, 14, 16/14, and 18/14 depend from independent claim 12, which is believed to be allowable for at least the reasons discussed herein. Hodjat et al. does not make up for the aforementioned deficiencies of AAPA fig. 1 and Mesenich. Thus, the combination of AAPA fig. 1, Mesenich, and Hodjat et al. do not make obvious claims 13, 14, 16/14, and 18/14.

Claim 17/14 was rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA fig. 1, Mesenich, and Hodjat, as applied in the rejection against the base claim, and further in view of Lindgren. Traversal of this rejection is made for at least the following reasons. As discussed above, neither rotor 8 nor stator 15 of Lindgren are structured or employed to hold an electromagnetic coil. Thus, slots 18 for stator alternating current windings 19 cannot be considered equivalent to the claimed hole provided in a top portion of a wire winding pod.

Claim 19/14 was rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA fig. 1, Mesenich, and Hodjat, as applied in the rejection against the base claim, and further in view of the level of ordinary skill in the art. Applicants traverse the Examiner's contention that tapering an inner annular ring and an outer annular ring at an angle α is would have been obvious to one of ordinary skill in the art. Accordingly, Applicants request that supporting documentation be provided.

Claims 15, 16/15, and 18/14 were rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA fig. 1, Mesenich, Hodjat, and Aoki. Traversal of this rejection is made for at least the following reasons. As discussed above, element 40C of Aoki is a core support for an armature core and element 40C2 of Aoki is a shaft slip-in portion formed in a central portion of the core support 40C in order to press the rotor shaft 9 thereinto. The armature core support 40C and the shaft slip-in portion 40C2 of Aoki are not equivalent to the claimed mounting flange.

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Moreover, there is insufficient motivation in the cited references to combine the teachings of AAPA fig. 1, Mesenich, Hodjat, and Aoki to result in the claimed invention.

Claim 17/15 was rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA fig. 1, Mesenich, Hodjat, Aoki, and further in view of Lindgren. Traversal of this rejection is made for at least the following reasons. As discussed above, neither rotor 8 nor stator 15 of Lindgren are structured or employed to hold an electromagnetic coil. Thus, slots 18 for stator alternating current windings 19 cannot be considered equivalent to the claimed hole provided in a top portion of a wire winding pod.

Claim 19/15 was rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA fig. 1, Hodjat, Mesenich, and Aoki, as applied in the rejection against the base claim, and further in view of the level of ordinary skill in the art. Applicants traverse the Examiner's contention that tapering an inner annular ring and an outer annular ring at an angle α is would have been obvious to one of ordinary skill in the art. Accordingly, Applicants request that supporting documentation be provided.

Claim 27 was rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA fig. 1, in view of Mesenich and Lindgren. Traversal of this rejection is made for at least the following reasons. The Examiner concedes that AAPA fig. 1 does not disclose a mounting flange integral to the disc and having a bore extending from the mounting flange to a bottom surface of the disc; or a hole through a top surface of the wire winding pod to feed wire leads, as required by independent claim 27. Accordingly, the Examiner relied on Mesenich, in particular, Fig. 3a of Mesenich, and Lindgren in an attempt to make up for the deficiencies of AAPA fig. 1. Mesenich discloses a stator 30 that has a threaded portion 240 such that the stator 30 can be threadably engaged with an associated valve housing to mitigate independent movement of an outer pole 348a of the stator 30. However, Mesenich does not disclose, teach, or suggest a mounting flange having a bore that extends from the top portion of the stator to a bottom surface of the disc. Figs. 2a-2c of the subject application illustrates that a bore formed in mounting flange 30 extends only to a bottom surface of the disc. Another bore, which has a different diameter than the mounting flange bore, extends from the bottom surface of the disc to an end portion of the inner annular ring. In contrast, Fig. 3a of Mesenich depicts the stator 30 as having only one bore, which

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extends completely therethrough.

Regarding Lindgren, it is submitted that the Examiner is incorrectly relying on induction rotor 8 and stator 15 of Lindgren as being equivalent to the claimed wire winding pod. A wire winding pod is structured and employed to hold an electromagnetic coil. In contrast, neither rotor 8 nor stator 15 are structured or employed to hold an electromagnetic coil. Thus, slots 18 for stator alternating current windings 19 cannot be considered equivalent to the claimed hole provided in a top portion of a wire winding pod. Thus, neither AAPA, Mesenich, nor Lindgren, individually or in combination, teach or suggest each and every limitation set forth in claim 27.

Regarding claims 21-28, such claims were originally filed with the present application but not subject to the restriction requirement dated April 23, 2003. Because restriction was required between two classes: (I) a magnetic core structure, classified in class 310, subclass 216 and (II) a method of making a magnetic core classified in class 29, subclass 596; it is assumed that claims 21-26 directed to methods of forming a one-piece field core shell fall within non-elected class (II) and claims 27-28 directed to field core structures fall within elected class (I) for purposes of this Amendment.

In light of the foregoing, it is respectfully submitted that the present application is in a condition for allowance and notice to that effect is hereby requested. If it is determined that the application is not in a condition for allowance, the Examiner is invited to initiate a telephone interview with the undersigned attorney to expedite prosecution of the present application.

If there are any additional fees resulting from this communication, please charge same to our Deposit Account No. 16-0820, our Order No. 33729.

Respectfully submitted,
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Date: September 29, 2003